

WHAT IS CLAIMED IS:

1. A composition for enhancement of keratinous tissues comprising (a) an enhancing effective amount of a polymer having from 7 to 15 subunits, each subunit consisting of a member of the group selected from L-arginine and physiologically acceptable salts of L-arginine that enhance vasodilation through production of nitric oxide, and (b) a cosmetically or dermatologically acceptable vehicle.
2. A composition according to claim 1 in which the polymer contains 7, 9, 11, 13 or 15 subunits.
3. A composition according to claim 1 in which the polymer contains 7, 9, 11, or 13 subunits.
4. A composition according to claim 1 in which the polymer contains 7 or 9 subunits.
5. A composition according to claim 1 selected from skin care compositions, lip care compositions, hair care compositions, and dental care compositions.
6. A composition according to claim 1 selected from creams, lotions, solutions, suspensions, powders, emulsions, gels, waxy products, powders and solids.
7. A composition according to claim 1 selected from skin-washing and skin-cleansing preparations, soapless detergents, body lotions, emulsions, skin oils, peeling or scrub preparations, peeling masks, foam baths, bath milks, shower preparations, bath cubes, bath salts, facial make-up eyeshadow, mascara, eyeliner, eye creams, lipsticks, lip gloss, lip contour pencils, nail polish, nail varnish, foot baths, foot powders, foot creams, foot balsams, callous-removing preparations, sun milks, sun lotions, sun creams, sun oils, sun blocks, pre-tanning preparations, after-sun preparations, self-tanning creams, toothpastes, tooth powders, gum treatment pastes, gum treatment gels, gum rinses, shampoos, conditioners, styling creams, styling gels, hair rinses, foams, hairsprays, hair dyes and hair colorants.

8. A composition according to claim 1 in which the subunits are selected from L-arginine and physiologically acceptable salts of l-arginine.

9. A composition according to claim 1 in which the subunits are selected from L-arginine and L-arginine salts selected from the group consisting of L-arginine sulfate, hydrobromide, hydrochloride, sulfate, bisulfate, nitrate, acetate, oxalate, valerate, oleate, palmitate, stearate, laureate, borate, benzoate, lactate, phosphate, tosylate, citrate, maleate, fumarate, succinate, tartrate, naphthylate, mesylate, glucoheptonate, lactiobionate and laurylsulfonate; alkali and alkaline earth metal salts of L-arginine; and ammonium, quaternary ammonium and amine salts of l-arginine.

10. A composition according to claim 1, further containing one or more ingredients selected from antimicrobials, moisturizers and hydration agents, penetration agents, preservatives, emulsifiers, natural or synthetic oils, solvents, surfactants, detergents, gelling agents, emollients, antioxidants, fragrances, fillers, thickeners, waxes, odor absorbers, dyestuffs, coloring agents, powders, viscosity-controlling agents and water, and optionally including anesthetics, anti-itch actives, botanical extracts, conditioning agents, darkening or lightening agents, glitter, hair pigment additives, humectants, mica, minerals, polyphenols, silicones or derivatives thereof, sunblocks, vitamins, and phytomedicinals.

11. A composition according to claim 1, further containing one or more additional skin care, lip care, dental care or hair care active agents.

12. A composition according to claim 11 further containing one or more ingredients selected from anti-acne actives; anti-wrinkle, anti-skin atrophy and skin repair actives; skin barrier repair actives; non-steroidal cosmetic soothing actives; artificial tanning agents and accelerators; skin lightening actives; sunscreen actives; sebum stimulators; sebum inhibitors; anti-oxidants; protease inhibitors; skin tightening agents; anti-itch ingredients; 5-alpha reductase inhibitors; desquamating enzyme enhancers; anti-glycation agents; and mixtures thereof.

13. A composition according to claim 1 in which the polymer further comprises a hydrophobic, hydrophilic, or amphipathic moiety, or a second polymer, linked or anchored to a terminal L-arginine subunit of the polymer.

14. A composition for enhancement of keratinous tissues comprising (a) an enhancing effective amount of a polymer having from 7 to 15 contiguous L-arginine subunits, each such subunit consisting of a member of the group selected from L-arginine and physiologically acceptable salts of L-arginine that enhance vasodilation through production of nitric oxide, the polymer also containing one or more amino acids other than L-arginine, providing that (i) such other amino acids are not therapeutically effective and (ii) the contiguous L-arginine subunits are situated at either the C-terminus or the N-terminus of the polymer; and (b) a cosmetically or dermatologically acceptable vehicle.

15. A composition according to claim 14 in which the polymer contains 7, 9, 11, 13 or 15 contiguous L-arginine subunits.

16. A composition according to claim 14 in which the polymer contains 7, 9, 11, or 13 contiguous L-arginine subunits.

17. A composition according to claim 14 in which the polymer contains 7 or 9 contiguous L-arginine subunits.

18. A composition according to claim 14 selected from skin care compositions, lip care compositions, hair care compositions, and dental care compositions.

19. A composition according to claim 14 selected from creams, lotions, solutions, suspensions, powders, emulsions, gels, waxy products, powders and solids.

20. A composition according to claim 14 selected from skin-washing and skin-cleansing preparations, soapless detergents, body lotions, emulsions, skin oils, peeling or scrub preparations, peeling masks, foam baths, bath milks, shower preparations, bath cubes, bath salts, facial make-up eyeshadow, mascara, eyeliner, eye creams, lipsticks, lip gloss, lip contour pencils, nail polish, nail varnish, foot baths, foot powders, foot creams, foot balsams, callous-removing preparations, sun milks, sun lotions, sun creams, sun oils, sun blocks, pre-tanning preparations, after-sun preparations, self-tanning creams, toothpastes, tooth powders, gum treatment pastes, gum treatment gels, gum rinses, shampoos, conditioners, styling creams, styling gels, hair rinses, foams, hairsprays, hair dyes and hair colorants.

21. A composition according to claim 14 in which the L-arginine subunits are selected from L-arginine and physiologically acceptable salts of L-arginine.

22. A composition according to claim 14 in which the L-arginine subunits are selected from L-arginine and L-arginine salts selected from the group consisting of L-arginine sulfate, hydrobromide, hydrochloride, sulfate, bisulfate, nitrate, acetate, oxalate, valerate, oleate, palmitate, stearate, laureate, borate, benzoate, lactate, phosphate, tosylate, citrate, maleate, fumarate, succinate, tartrate, naphthylate, mesylate, glucoheptonate, lactiobionate and laurylsulfonate; alkali and alkaline earth metal salts of L-arginine; and ammonium, quaternary ammonium and amine salts of l-arginine.

23. A composition according to claim 14, further containing one or more additional skin care, lip care, dental care or hair care active agents.

24. A composition according to claim 23 further containing one or more active compounds selected from anti-acne actives; anti-wrinkle, anti-skin atrophy and skin repair actives; skin barrier repair actives; non-steroidal cosmetic soothing actives; artificial tanning agents and accelerators; skin lightening actives; sunscreen actives; sebum stimulators; sebum inhibitors; anti-oxidants; protease inhibitors; skin tightening agents; anti-itch ingredients; 5-alpha reductase inhibitors; desquamating enzyme enhancers; anti-glycation agents; and mixtures thereof.

25. A composition according to claim 14, further containing one or more ingredients selected from antimicrobials, moisturizers and hydration agents, penetration agents, preservatives, emulsifiers, natural or synthetic oils, solvents, surfactants, detergents, gelling agents, emollients, antioxidants, fragrances, fillers, thickeners, waxes, odor absorbers, dyestuffs, coloring agents, powders, viscosity-controlling agents and water, and optionally including anesthetics, anti-itch actives, botanical extracts, conditioning agents, darkening or lightening agents, glitter, hair pigment additives, humectants, mica, minerals, polyphenols, silicones or derivatives thereof, sunblocks, vitamins, and phytotherapeutics.

26. A composition according to claim 14 in which the polymer further comprises a hydrophobic, hydrophilic, or amphipathic moiety, or a second polymer, linked or anchored to a terminal L-arginine subunit of the polymer.

27. A method of prophylactically or therapeutically caring for the skin, hair, lips or gums comprising applying thereto an enhancing effective amount of a composition according to claim 1.

28. A method according to claim 27 in which the composition is applied topically.

29. A method according to claim 27 in which the composition is applied to promote angiogenesis in hair follicles.

30. A method according to claim 27 in which the composition is applied to alleviate signs of aging in skin.

31. A method according to claim 27 in which the composition is applied to enhance the appearance of lips.

32. A method according to claim 27 in which the composition is applied to enhance sensitivity of skin.

33. A method according to claim 27 in which the composition is applied for stabilization or remodeling of fat.

34. A method according to claim 27 in which the composition is applied for treatment of gum regression.

36. A method of prophylactically or therapeutically caring for the skin, hair, lips or gums comprising applying thereto an enhancing effective amount of a composition according to claim 14.

37. A method according to claim 36 in which the composition is applied topically.

38. A method according to claim 36 in which the composition is applied to promote angiogenesis in hair follicles.

39. A method according to claim 36 in which the composition is applied to alleviate signs of aging in skin.

40. A method according to claim 36 in which the composition is applied to enhance the appearance of lips.

41. A method according to claim 36 in which the composition is applied to enhance sensitivity of skin.

42. A method according to claim 36 in which the composition is applied for stabilization or remodeling of fat.

43. A method according to claim 36 in which the composition is applied for treatment of gum regression.

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